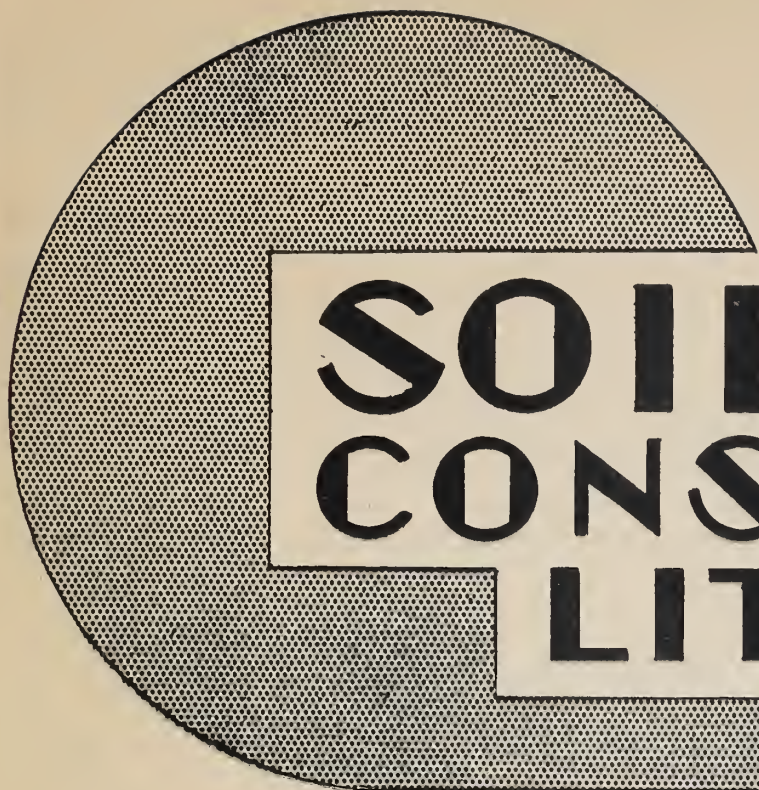


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SOIL CONSERVATION LITERATURE

SELECTED CURRENT REFERENCES

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Ruby W. Moats

Ruby W. Moats
Librarian

PERIODICAL ARTICLESBank Erosion Control

Evans, T.R. A method of streambank control. Willow mat plan recommended. Conserv. Volunteer 3(14):52-55. Nov. 1941. 279.8 C465
"Adequate vegetation along the banks is an essential in trout stream improvement."

Zile, R.R. Plantings for control of river-bank erosion in Vermont. N.Y. Bot. Gard. Jour. 42(501):215-219, illus. Sept. 1941. 451 N48J
"To co-operate with the United States Forest Service, the New York Botanical Garden has provided the services of Dr. A.B. Stout, who for a number of years worked on fast-growing hybrid poplars for reforestation. Recently about 50 clones of poplars which were developed have been used in a river-bank erosion control project in northern Vermont. The story of how the farm lands along a section of the Winooski River are being saved from flood and damage through the assistance of the Soil Conservation Service of the U.S. Department of Agriculture is told [in this article] by the Project Manager."

Conservation

Farrington, F.N. Conservation in a county's "comeback" [Ala.]. Agr. Engin. 22(10):335-356, illus. Oct. 1941. 58.8 Ag83

Vale, M.A.G. La conservación de los recursos naturales: el problema, sus diversas fases y la importancia relativa de estas. U.S. Trop. Forest Expt. Sta. Caribbean Forester 3(1):1-10. Oct. 1941. 1.9622 T2023
"Bibliografía," p. 10.
Article in Spanish, Summary in English.
"This paper is a simple and general exposition of the problem of conservation of natural resources in Venezuela."

Conservation. Study and Teaching

Drag, F.L. and Beeson, R.W. A teacher workshop for conservation. Amer. Forests 47(10):476-478, illus. Oct. 1941. 99.8 F762

Contour Farming

Aylen, D. Hand made contour ridges and piece work. Rhodesia Agr. Jour. 38(8):433-440, illus. Aug. 1941. 24 R34

Cleghorne, J.W. Veld contour embankments. Farming in So. Africa 16(186):
315. Sept. 1941. 24 So842

Plowed around the hills. Wisconsin, Iowa, and Minnesota plowmen compete in
first big contour match. Wallaces' Farmer and Iowa Homestead 66(22):
728, illus. Nov. 1, 1941. 6 W15

Sauer, E.L. and Atherton, J.C. Contour farming boosts yields and maintains
soil resources. Ill. Farm Econ. no. 72, pp. 32-35. May 1941. 275.28 I15

Waring, P.A. Contoured farms in Honey Hollow [Bucks County, Pa.] Pa. Farmer
125(9):[193], 208, illus. Oct. 25, 1941. 6 P383

William Moy winner in contour contest. "Crooked" plowing match brings crowd
from three states. Wis. Agr. and Farmer 68(21):4, illus. Oct. 18,
1941. 6 W751

Cover Crops

Flood, Francis. Let's cover that worn-out and abandoned land. Farmer-
Stockman 54(13):339, illus. July 1, 1941. 6 Ok45

"Blue grama grass is succeeding as a cover crop throughout the
Oklahoma and Texas plains."

Scharff, Justin. Fall cover crops. Calif. Cult. 88(20):578-579. Oct. 4,
1941. 6 Cl2

Stephenson, R.E. Cover crops for orchard soil erosion control. Calif. Cult.
88(21):606. Oct. 18, 1941. 6 Cl2

Winslow, M.M. Winter orchard cover crop. Suggestions on planting and handling.
Calif. Citrog. 26(12):362, 374, illus. Oct. 1941. 80 Cl25

Dams

Freeland, Roy. If we build these dams... Kans. Farmer 78(12):3, 18, illus.
June 14, 1941. 6 K112

Discussion of possible irrigation plans for Kansas by U.S. Bureau of
Reclamation.

Defense

Townsend, M.C. Agriculture's clearinghouse for defense activities. U.S.
Soil Conserv. Serv. Soil Conserv. 7(4):97-99, illus. Oct. 1941. 1.6 So3S

Wickard, C.R. Agricultural production goals for 1942. Food will win the war
and write the peace. Vital Speeches of the Day 7(24):764-766. Oct.
1, 1941. 280.8 V83

Dust Bowl

Isely, Bliss. Unwhipped dust bowl heroes won't budge. Nation's Bus. 29(11):
[26]-28, 86-87, illus. Nov. 1941. 286.8 N212

Old Dust Bowl now a garden of green fits into grassland agricultural program.
Kans.Stockman 25(21):15-16. Sept.15,1941. 49 K134

Farm Fish Ponds

Pryor,W.C. A new crop for the old farm. U.S.Soil Conserv.Serv.Soil Conserv.
7(4):89-93,illus. Oct.1941. 1.6 So3S

The Soil Conservation Service considers farm fish ponds so important in a well-rounded conservation program that it has established a number of demonstration ponds and is including fish ponds in many farm plans in the South.

Farm Machinery

Cutter,L.S. and Norton,R.A. Farm machinery and farming methods in soil conservation. U.S.Soil Conserv.Serv.Soil Conserv.7(4):100-106,illus.
Oct.1941. 1.6 So3S

Nichols,M.L. and Gray,R.B. Some important farm machinery and soil conservation relationships. Agr.Engin.22(10):[341]-343,illus. Oct.
1941. 58.8 Ag83

"Paper presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Knoxville,Tenn., June 1941."

Farm Planning

Tsui Ts'ui,Ruh. Farm management study of eight representative localities in North China. Chinese Social and Polit.Sci.Rev.24(3):291-331,illus.
Oct./Dec.1940. 280.8 C44

"Purpose:-The purpose of this study is to outline the year's farm business in the North China Plain and to determine the factors which affect the success or failure of farm business in a normal year.A farmer invests his money in land,building,farm tools and livestock,from which he expects to derive a reasonable income.As we know,income from the farm is not only dependent on natural factors,such as soil,topography and climate,but also on a number of human factors of which the most important is the managerial ability of the operator.

"The primary object of this study is to help the individual farmer to have a fuller knowledge of his farm so that he may be able to plan his work and carry it out in such a way as to increase the profitability of his farm in the future.This study also presents a true picture of agricultural conditions,which will help the Government greatly in planning agricultural improvement work and in drawing up a definite agricultural policy.It also serves to furnish valuable material for teaching purposes."

Watkins,W.F. What can we do by farm planning? U.S.Bur.Agr.Econ.Land Policy Rev.4(9):24-28. Sept.1941. 1 Ec7La

"Agricultural planning is a comparatively new procedure but it is old enough to allow evaluations and questions on future directions.Here is one evaluation which adds up to the point that agricultural planning needs to begin with the individual farmer and his farm."

Farm Woodlands

Preston, J.F. Marketing the products from farm woodlands. Jour.Forestry 39(11):926-929. Nov.1941. 99.8 F768

"Despite the large area of farm woodlands in the United States, despite their importance in the national economy, and despite the attention they have received by foresters, little progress has been made in correcting or even greatly modifying the basic problems of overproduction of low-grade products. This the author believes can be done only by better timber management practices. But how can the farmer be induced to practice better timberland management? The author of [this] article tells what he thinks can be and should be done."

Flood Flows

Davison, A.H. Computation of flood flows by slope-area method. Civ.Engin. 11(7):426-428, illus. July 1941. 290.8 C49

"Flood flows, with their attendant scouring of river channels, washing out of bridges, and other damage, often produce abnormally high discharges accompanied by backwater effects from obstructions washed into the stream channel. Hence such flows usually require individual analysis and solution. The immediate objective of this discussion is to present a method for the accurate determination of flood discharge and to provide a sound explanation of the attendant factors."

Floods and Flood Control

Bauknight, Wilfred. Construction for flood control at Pittsburgh. Civ.Engin. 11(11):637-640, illus. Nov.1941. 290.8 C49

"Floods on the Monongahela and Allegheny rivers and their tributaries have caused major damage over a long period of years. In flood stages these rivers present a frightening sight. River-bank homes and businesses are evacuated while houses and haystacks ride swiftly by as though on a highway. Relief for this situation involves many elements, from flood control dams on the upper tributaries to local flood protection in certain communities. In this paper Mr. Bauknight tells of the present construction program being carried out by the U.S. Engineer Corps to relieve the flood menace in the Pittsburgh area."

Calland, R.S. Controlling Central Valley floods [Calif.]. U.S. Bur. Reclam. Reclam. Era 31(11):294-295, illus. Nov.1941. 156.84 R24

Langbein, W.B., Tatum, F.E. and Woster, H.C. A direct method of flood routing. Discussion. Amer. Soc. Civ. Engin. Proc. 67(9):1763-1767. Nov. 1941. 290.9 Am3P

Paper with above title, by C.O. Wisler and E.F. Brater, appeared in June 1941 Proceedings.

Pequegnat, Marcel. Grand River conservation. Review of sewage-dilution and flood-control difficulties necessitating Shand Dam. Water and Sewage 79(10):36, 38, 62, 64, 66, 69, illus. Oct.1941. 290.8 C16

Fluid Mechanics

Ellwood, Arthur. An engineer's approach to fluid mechanics. Engin. News-Rec. 127(15):505-509, illus. Oct. 9, 1941. 290.8 En34

"Bibliography," p. 91.

"Vast strides forward have been made in the development and application of mathematical analysis for the solution of practical hydraulic problems. The following discussion reviews some of these new concepts and points to the significance of various formulas of the modern school of fluid mechanics. An illustrative example shows the application of these formulas to the practical problems of engineers."

Grass Seed

Pearse, C.K. Range grass seed: a promising crop for Utah. Utah Farmer 61(5): 9. Oct. 10, 1941. 6 D45

Grasses and Grassland

Andrew, W.D. Pasture plants of Victoria. 3-Weeping grass (*Microlaena stipoides*), Scented vernal grass (*Anthoxanthum odoratum*), Veldt grasses (*Ehrharta longiflora*, *erecta* and *calycina*) Victoria Dept. Agr. Jour. 39(Pt. 10):474-480, illus. Oct. 1941. 23 V66J

Beaumont, A.B. Grassland farming in New England. Amer. Fert. 95(9):8-9. Oct. 25, 1941. 57.8 Am3

"New England soils generally have poor natural, but good potential, adaptability to cultivated grasses suitable for forage. Forests are the natural climax of most of the area. Supplements must be added to most soils to insure quantity and quality of forage adequate for a prosperous and profitable grassland economy. While New England soils are generally poorly adapted to grasses, there are differences among these soils. Some require less supplements than others; some are so poorly adapted to grassland farming that they should not be used for that purpose. The better adapted soils, properly managed, will produce abundant forage of good quality. The way to make them produce is known. The agronomic aspects of the problem are better known than are the economic, but that is another matter."

Beaumont, A.B. Grassland farming in New England. Better Crops with Plant Food 25(8):21-22, 37-38, illus. Oct. 1941. 6 B46

Hensel, R.L. Studies on some important pasture grasses [Texas]. Acco Press 19(3 i.e. 9):17. Sept. 1941. 6 Ac2

Kaleski, L.G. Grassland improvement on the Southern Tablelands of New South Wales. N.S. Wales Agr. Gaz. 52(Pt. 7):347-351, illus. July 1, 1941. 23 N472

"Successful grassland improvement by the use of introduced pasture species and application of fertilisers, depends upon a sound knowledge of the soils and climate of the locality - the pasture species chosen must suit the prevailing conditions."

"The wide range of soil types that occur on the Southern Tableland and the variation in the incidence and reliability of the rainfall

together require the employment of numerous grassland improvement methods in this part of the State. In the June issue Mr. Kaleski discussed sown pastures suitable to the soils and rainfall of various parts of the Southern Tableland to the north of Goulburn. In this issue he deals with the areas further south. Graphs are included to show the monthly expectancy of the rainfall in three years out of four - a method of rainfall computation that is of great value in pasture work."

Olmsted, C.E. Growth and development in range grasses. I. Early development of *Bouteloua curtipendula* in relation to water supply. Bot. Gaz. 102(3):499-519, illus. Mar. 1941. 450 B652
"Literature cited," pp. 518-519.

Rogler, G.A. Russian wild-rye, *Elymus Junceus* Fisch. Amer. Soc. Agron. Jour. 33(3):266-268. Mar. 1941. 4 Am34P
A grass suggested as promising for erosion control in the semi-arid northern Great Plains is described.

Wilson, G.W. More sod. The era of exploitation of the prairies passes as men turn to grass and livestock for greater farming security. Capper's Farmer 52(11):13, illus. Nov. 1941. 6 M693

Young, V.A. A promising new hybrid grass for certain burned-over forest lands. Jour. Forestry 39(11):930-934, illus. Nov. 1941. 99.8 F768

"Today there is an urgent need in the West for a new palatable and soil-holding grass that will adapt itself to burned-over forest lands as well as badly overgrazed foothill ranges below and adjacent to the forest boundaries. The present paper describes the results obtained with michels grass, a hybrid developed at the University of Idaho."

Grasshoppers

Allred, B.W. Grasshoppers and their effect on sagebrush on the Little Powder river in Wyoming and Montana. Ecology 22(4):387-392. Oct. 1941 410 Ec7
"Literature cited," p. 392

"Summary. The coincidence of a severe drought and a grasshopper plague in 1936 caused the killing of approximately 50 per cent of the big sagebrush (*Artemisia tridentata*) on a segment of the Little Powder River drainage in northeastern Wyoming and southeastern Montana. On a similar area between Gillette and Moorcraft, Wyoming, where the 1936 drought was equal to that on the Little Powder River but where there was a minor grasshopper infestation, only 15 percent of the sagebrush was killed.

"Sagebrush losses were greatest on ranges (1) having heavy clay soils, (2) with southwestern exposures or gently rolling uplands, (3) having seventy per cent or more of the forage density in the form of grass. Sagebrush losses were much less severe on ranges: (1) with soils of a high sand friction, (2) having northern exposures with slopes of 15 per cent or more, (3) having seventy per cent or more of the plant density in sagebrush, (4) in floodplain and stream-bank stands of sagebrush.

"The sagebrush losses were much less on sites where better moisture values prevailed. Also, the sagebrush was damaged several times more on ranges that had a high percentage of grasses.

"It is concluded that the grasshopper has abetted the destruction of

Artemisia tridentata, during the critical period of drought, whereas the plant would have largely withstood drought alone."

Green Manuring

Menezes, J.A. Green manuring[India]. Poona Agr.Col.Mag.33(1):5-6. July 1941. 22 P79

Highway Erosion Control

Harper, F.B. Controlling highway erosion in Idaho. Pacific Builder and Engin. 47(7):58,60,62. July 1941. Library of Congress
Description of technique used to reduce maintenance on highways in Panhandle of Idaho by control of highway erosion, sodding, and wattles; grasses and trees; specifications.

Irrigation and Drainage

Ashton, C.D. Irrigation company launches improvement project. Utah Farmer 61(3):[3],10,22. Sept.10,1941. 6 D45
Provo Bench canal and irrigation improvement project.

Ballantyne, J.A. Citrus irrigation practices. Some cultural suggestions. Agr.Gaz.N.S.Wales 51(Pt.12):692-693. Dec.1,1940. 23 N472

Benton, R.J. Citrus irrigation practices. Control of soil moisture. Agr.Gaz. N.S.Wales 51(Pt.12):691-692, illus. Dec.1,1940. 23 N472

Christiansen, J.E. Hydraulics of sprinkling systems for irrigation. Discussion. Amer.Soc.Civ.Engin.Proc.67(9):1738-1740. Nov.1941. 290.9 Am3P
Paper with above title, by J.E.Christiansen, appeared in January 1941 Proceedings.

Cleworth, M.M. Artesian-well irrigation: its history in Brown County, South Dakota, 1889-1900. Agr.Hist.15(4):195-201. Oct.1941. 30.98 Ag8

Debler, E.B. Conveyance losses in irrigation canals. Civ.Engin.11(10):584-585, illus. Oct.1941. 290.8 C49

"In the arid lands of the West, where irrigation provides the means of livelihood for literally millions of people, it is self-evident that water has a monetary value. Little attention, however, is often paid to the escape of this valuable fluid in seepage from delivery and distribution systems. Yet such losses are not only costly in terms of dollars, they also may ruin productive land through a rise in the ground-water table or in other ways. In this paper, from a session of the Irrigation Division at the San Diego Convention, Mr. Debler draws attention to the importance of such water losses and to the need of taking definite steps of practical usefulness to collect and correlate data on this neglected subject."

Harding, S.T. and others. Consumptive use of water for agriculture. Discussion. Amer.Soc.Civ.Engin.Proc.67(8):1497-1504, illus. Oct.1941. 290.9 Am3P
C.S.Jarvis, R.W.Davenport, and Gordon R.Williams, joint authors.
Article by above title, by Robert L.Lowry, Jr. and Arthur F.Johnson, was published in April 1941 Proceedings.

Harris, Karl. The irrigation of cotton. U.S.Bur.Reclam.Reclam.Era 31(10): 266-267, illus. Oct. 1941. 156.84 R24

"Cotton, principally long-staple variety, is grown on four southwestern Federal Reclamation projects. Irrigated long-staple cotton is practically the Nation's only domestic source of supply of this vital industrial commodity. The acreage planted to cotton on Reclamation projects is 1/2 of 1 percent of the total national acreage; the value of cotton produced on Reclamation project land is 1.6 percent of the total national value."

Harris, W.R. Mole draining is popular in Southland [New Zealand] New Zeal. Farmer 62(29):16, illus. Sept. 18, 1941. 23 N484

Hill, R.R. Irrigation, the national solution of rice problem [Philippines]. Agr.Com.Indus.Life 8(8):13-14. Aug. 1941. 25 Ag8

Horth, C.J. Cover cropping in irrigated orchards. With special reference to the Murrumbidgee irrigation area. N.S.Wales Agr.Gaz. 52(Pt.6):330-332, illus. June 1, 1941; 52(Pt.7):375-379, illus. July 1, 1941. 23 N472

"In the first instalment of this article which appeared in June issue, Mr. Horth suggested that horticulturalists on the Murrumbidgee Irrigation Area might, with benefit, review the present methods of management of their orchard soils with the object of maintaining the structure of the soil under irrigation conditions by the growing of rotations of cover crops.

"The practical difficulties of putting such a scheme of soil usage into operation were discussed, as well as the disadvantages.

"In this concluding portion, the value of various species as summer and winter cover crops and as green manure crops, is discussed and some practical suggestions made in relation to the management of the orchard soils under irrigation."

Irrigation problems and the great hydraulic works in Argentina. Argentine News no. 33, p. 14. Sept. 1, 1941. 255.1 Ar37A

Kahawita, R. Water-logging of irrigated lands and remedial measures [Ceylon]. Trop.Agr. [Ceylon] 95(5):278-287. Nov. 1940. 26 T751

"References," p. 287.

Also in Rhodesia Agr.Jour. 38(6):302-313. June 1941.

Land drainage (Scotland) Act, 1941. Scot.Jour.Agr. 23(3):272-275. July 1941. 10 Sco82So

"The purpose of this Act, which received the Royal Assent on 26th March, 1941, is to enable the Secretary of State during the present war to carry out arterial drainage works in various parts of Scotland where agricultural land is unproductive, or nearly so, because of its liability to floods. It is a war-time measure to meet the need for maintaining and increasing food production."

Nicholson, H.H. Mole-draining. Methods to use - and pitfalls to avoid. Dairy Farmer [London] 14(10):10, illus. Oct. 1941. 44.8 D1414

Overhead irrigation. Internatl.Sugar Jour. 43(513):268. Sept. 1941. 65.8 In8

Pennefather, R.R. Irrigation research on the M.I.A. Water management and soil deterioration[Australia] Citrus News 17(8):116-117.
Aug.1941. 80 C494

Portable overhead irrigation. Overhead irrigation in Hawaii cane. New Agr.
24(1):6-7, illus. Oct.1941. 66.8 Su32

Pyle, F.D. Distinctive features of the irrigation systems in San Diego County, Calif. Civ. Engin. 11(11):645-647, illus. Nov.1941. 290.8 C49

"San Diego County, with an average rainfall of under 10 in. along the coast, and a rapid increase in population, examines with renewed interest its water supply. After briefly describing the sources, quality, and storage capacities, Mr. Pyle outlines the distinctive features of the county's water problems. Of special interest is the distribution of water between homes, estates, and small farms with surprisingly little loss. This paper was originally delivered before the Irrigation Division at the Society's San Diego Convention in July."

Rigotard, Marcel. Irrigation et quantite d'eau. Prog. Agr. et Vitic. (Ed. de l'Est-Centre) 62(30-31):56-60. July 27/Aug. 3, 1941. 14 P94.
Article in French.
Irrigation in North Africa.
To be continued.

Taylor, E.M. and Mehta, M.L. Some irrigation problems in the Punjab. Indian Jour. Agr. Sci. 11(Pt. 11):137-169, illus. Apr. 1941. 22 Ag83I
"References, pp. 168-169.

"Irrigation problems in the Punjab cover a very wide field which includes construction and maintenance of headworks, river training, maintenance of canals, the distribution and use of irrigation water with which are associated the waterlogging and the deterioration of land due to the accumulation of salts at the surface. Since about 40 per cent of the revenue of the province is derived directly from irrigation and a further 45 per cent is obtained indirectly, the financial aspect of irrigation is also of considerable importance and presents problems which require solution."

Tolbert, E.N. The Columbia basin: studies in progress. U.S. Bur. Agr. Econ. Land Policy Rev. 4(10):3-9. Oct. 1941. 1 Ec2La

"One of history's major technical planning jobs is under way in the basin of the Columbia River where Grand Coulee Dam will open an area the size of Delaware to farmers. 'It is in an effort to avoid mistakes of the past that the most comprehensive planning investigations ever undertaken for an irrigation development are under way now in the Basin.'"

Umana Q, J.A. El importante problema de la irrigacion [Colombia] Rev. Nac. Agr. [Bogotá] 36(446):41-42, illus. Aug. 1941. 9.4 R32
Article in Spanish.

Wasted water also wastes soil. Wash. Farmer 66(15):386. July 17, 1941. 6 R151

"Editor's note: This is the fourth and last in a series of articles on conservation in irrigation based on information supplied by soil conservation technicians of the United States department of agriculture."

Land Management and Utilization

Abrams, Charles. New social trends in land utilization. Amer.Inst.Real Estate Appraisers Jour.9(4):331-345. Oct.1941. 282.8 Am3

"With clarity and thoroughness, the author traces the growth of government control over real estate. In closing, he offers a plan of private and public cooperation for putting land to its best social use."

Donald, C.M. Land use. Austral.Inst.Agr.Sci.Jour.7(3):96-104. Sept. 1941. 23 Au74

"References," p.104.

"The steps in securing efficient land use can be summarised as follows: (1) Survey; (2) Research; (3) Planning; (4) Realisation of the plan by: (a) Education and publicity; (b) Demonstration; (c) Local community endeavours; (d) Legislation.

"Finally it must be stressed that as progress occurs, so modifications in the plan must be adopted. Planning must be a continuous process, always ahead of development."

Foscue, E.J. Land utilization in Costa Rica. Sci.Monthly 53(5):427-439, illus. Nov.1941. 470 Sci23

"References," p.439

Oberg, Kalervo. Cultural factors and land-use planning in Cuba Valley, New Mexico. Rural Sociol.5(4):[438]-448. Dec.1940. 281.28 R88

"Cuba Valley is today inhabited by two distinct cultural groups, each with its characteristic form of settlement and method of land use. The Spanish-American villages along the irrigable lands of the Rio Puerco represent a relatively long period of adjustment of people to a semi-arid environment; the Anglo-American homesteads on the surrounding dry lands have some twenty years of recent history and represent a process of economic and cultural adjustment which is still in progress.

"Economic distress, especially among the Spanish-Americans, arises from the decrease in the physical resources of range and farm land, the contraction of the market for agricultural labor, and the natural increase in the population dependent upon these resources. The essential need of both cultural groups is for more land resources; the existing land resources are insufficient. A lessening of the intensity of their use is even desirable.

"In the light of these needs the Federal Government has initiated a land-use adjustment program in the area, placing its land managing agencies in a position to determine the long-term trends in the use of resources. Some choice may have to be made as between the Spanish-American villages and the homesteaders. Before any choice can be made, however, it will be necessary to evaluate the possibilities of the development of a relatively stable community organization in the homestead area."

Young, H.E. and Filley, R.B. An analysis of the purposes of a land use survey. Planners' Jour.7(3):3-10. July/Sept.1941. 98.58 P692

Land, Mined.

Strip-mined areas become important in recreation and forestry program [Indiana]
Outdoor Ind. 8(10):10, 28, illus. Nov. 1941. 279.8 Ou82

Landslides

Benson, W.N. Landslides and allied features in the Dunedin District in relation to geological structures, topography, and engineering. Roy. Soc. New Zeal. Trans. and Proc. 70(Pt. 3):249-263, illus. Dec. 1940. 514 W46
"List of papers cited," p. 263.

"The valuable memoir recently published by Sharpe (1938), and the increasing realisation of the disastrous consequences of soil-erosion and landslides within New Zealand have called forth several papers during recent years. The present contribution has arisen from the detailed mapping of the Dunedin district, wherein the variety of rock-formations and topography is reflected in the variety of the landslide-phenomena."

Legumes

Reynolds, E.B. Winter legumes for Texas. Acco Press 19(3 i.c. 9):14. Sept. 1941. 6 Ac2

"To summarize briefly, hairy vetch has been the most suitable winter legume for soil improvement on the sandy soils in the eastern part of the state and on the soils of the Gulf Coast prairie. The biennial sweet clovers have been the best soil-improving legumes for central north Texas and Hubam clover for the southern blacklands and the Rio Grande Valley. None of the winter legumes have done well in western and north-western Texas."

Mulches

Hendrickson, B.H. and Crowley, R.B. Preliminary results with mulches applied to eroded wasteland sown to lespedeza. Amer. Soc. Agron. Jour. 33(8): 690-694. Aug. 1941. 4 Am34P

"Literature cited," p. 694.

"A series of preliminary tests dealing with mulching with grain straw and with lespedeza straw of annual lespedeza seedlings on thin, steep, clay-gall lands is reported in connection with which beneficial effects due to mulching have been obtained on stands, growth, yields of the crops, and reduction of soil and water losses.

"The plan of growing mulches in place of self-mulching cropping practices for the better crop lands is suggested by the results obtained in these tests on practically sterile, waste land."

Kramer, Amihud, Evinger, E.L. and Schrader, A.L. Effect of mulches and fertilizers on yield and survival of the dryland and highbush blueberries. Amer. Soc. Hort. Sci. Proc. 38:455-461. 1941.

"Mulch decreased the survival of dryland blueberries but increased the yield of highbush and dryland blueberries. Peat mulch in particular increased yield and root spread. Complete fertilizer and $(\text{NH}_4)_2\text{SO}_4$ had little effect on survival but improved yield. Peat-sawdust mulch and lespedeza cover gave the best control of soil erosion but the lespedeza cover reduced yield." Lawrence P. Miller.

Abs. Chem. Abs. 35(20):7091. Oct. 20, 1941.

Pastures

Hornby, H.E. Pasture management in relation to tsetse reclamation. East African Agr. Jour. 7(1):51-55. July 1941. 24 Ea74

"Tsetse-flies are widely distributed throughout tropical Africa and as, wherever they occur, stock-raising is difficult or impossible, the full agricultural development of the infested areas is likewise difficult or impossible. This fact is not always fully appreciated in East Africa, where much attention has been focused on soil erosion and on overstocking as a main cause of this evil. There is a tendency to ignore the insistence of agricultural research workers of Lyamungu, Amani, Kingolwira, Mpwapwa, and all other experimental stations which are threatened or already infested by tsetse, that unless these flies are held in check so that cattle continue to be kept it is impossible for soil fertility to be economically maintained. Two things must therefore be considered together:

"(1) That crop production, which by itself depletes soil fertility, can, where dovetailed with intelligent animal husbandry practice, be carried on without detriment to the land.

"(2) That once the line of conservatism in stock numbers is passed, then the evil effect of overstocking on the soil is likely to far outweigh any benefit the land may derive from the application of manure."

Lush, R.H. Pasture development in the South. U.S. Soil Conserv. Serv. Soil Conserv. 7(5):117-120, illus. Nov. 1941. 1.6 So3S

Rayner, G.B. Irrigated pastures in the Goulburn Valley [Australia] Victoria Dept. Agr. Jour. 39(Pt. 8):372-376, illus. Aug. 1941. 23 V66J

"Irrigated pasture experiments in the Goulburn Valley and elsewhere have shown that white clover, perennial ryegrass, and cocksfoot are particularly well adapted for growing under irrigation in this district; that superphosphate by itself is the best manure for these pastures - an annual dressing of two bags per acre is recommended; that no advantage is derived from splitting the annual quota of manure into two applications; that pastures in the Goulburn Valley will require watering at intervals of not more than a fortnight during the summer to maintain maximum production and take advantage of heavy applications of superphosphate; that an enforced longer period between waterings can to a great extent be overcome by the use of a supplementary watering; that the stock should not be allowed to remain too long on the pasture at each grazing; and finally that a balanced diet for the stock will be achieved by giving the pasture a recuperation period of one month between successive grazings."

Syme, P.S. Renovating farm pastures. New Zeal. Jour. Agr. 63(3):213-215, 217-219, illus. Sept. 15, 1941. 23 N48J

"Sooner or later the poorer pastures on the farm must be renovated. What is the best way to go about it? This article discusses the various methods available, and particularly deals with the question of ploughing and cultivation versus surface sowing. It is emphasised, however, that no matter which method is adopted, the ultimate result will depend largely on the topdressing practice and subsequent management."

Plant Cover

Johnson, W.M. and Niederhof, C.H. Some relationships of plant cover to run-off, erosion, and infiltration on granitic soils. Jour. Forestry 39(10):854-858, illus. Oct. 1941. 99.8 F768

"The fact that plant cover influences run-off, erosion, and infiltration has been firmly established by past research. Only under a few special conditions, however, has the degree of this influence been determined quantitatively. The study reported in this article was undertaken to secure a usable measure of this quantitative relationship, and to provide data for watershed management in the mountains of Colorado. With the use of small plots, results have been secured which evaluate plant cover as a watershed factor and at the same time demonstrate that under certain circumstances, soil conditions may overshadow and nullify the effects of vegetation."

Rains and Rainfall

Rowe, E.C. Frecuencia de la intensidad de lluvias en Santiago de Chile. Inst. de Ingen. de Chile An. 41(7-8):268-282, illus. July/Aug. 1941. 2909 C43
Article in Spanish. Translated title: Frequency and intensity of rains in Santiago, Chile.

Visher, S.S. Distribution of torrential rainfalls in the United States. Sci. Monthly 53(5):410-416, illus. Nov. 1941. 470 Sci23

Visher, S.S. Torrential rains as a serious handicap in the South. Geog. Rev. 31(4):644-652, illus. Oct. 1941. 500 Am35G
Erosion and leaching are the most serious long-term damages resulting from these rains.

Wood, W.J. Recording rainfall gage designed for remote mountain station. Engin. News-Rec. 127(15):503-504, illus. Oct. 9, 1941. 290.8 En34
"Loss of observer at key station causes Los Angeles County Flood Control District to build and install a recorder of special type. Impulses actuated by tilting bucket unit transmitted 12 miles to integration type instrument designed to insure recorder of high-intensity precipitation. Used in connection with operation of Big Tujunga Dam."

Range Management

Humphrey, R.R. and Lister, P.B. Native vegetation as a criterion for determining correct range management and run-off characteristics of grazing lands. Jour. Forestry 39(10):837-842, illus. Oct. 1941. 99.8 F768

"Few range-management programs can be fully effective unless based on a thorough knowledge of the vegetation of the range unit under consideration. This knowledge includes much more than present grazing capacities; it is intrinsically a knowledge of present vegetation considered in terms of the most desirable vegetation that might grow on the range unit involved. It is also a knowledge of the specific land-use practices that have resulted in the present vegetation, and of remedial measures that will restore deteriorated areas. It is, in short, adequate knowledge to

recognize range condition and to differentiate between top-condition and deteriorated ranges, to classify different degrees of deterioration, and to prescribe corrective measures."

Reid, E.H. and Pickford, G.D. A comparison of the ocular-estimate-by-plot and the stubble-height methods of determining percentage utilization of range grasses. Jour. Forestry 39(11):935-941. Nov. 1941. 99.8 F768

"One of the weakest phases in range management is the failure of field men to evaluate current degree of use in relation to that which may be considered proper. This weakness is due largely to the lack of confidence of field men in their ability to determine percentage utilization of forage species on ranges grazed by livestock. This article sets up results of utilization estimates made by average field men with moderate training and shows the accuracy with which degree of use of range grasses can be determined by using a simple field technique. The application of this study to everyday range inspection should be of interest to all actively engaged in range-management work."

Reclamation of Land

Abandoned lands regrassed. Tests prove practicability of reclaiming for live stock use, huge deserted, marginal and sub-marginal area [Canada] Farm and Ranch Rev. 37(11):13, illus. Nov. 1941. 7 F223

Run-off

Lillard, J.H. Effect of crops and slopes on rates of run-off and total soil loss. Agr. Engin. 22(11):396-398, 406, illus. Nov. 1941. 290.8 C49
"Bibliography," p. 406.

"Hydrographs and other run-off rate curves have been presented showing comparisons of run-off rates from corn, wheat, and hay plots on 5, 10, 15, 20, and 25 per cent slopes resulting from four spring and summer rains of the thunderstorm type. The data emphasize the difficulty of attempting to assign to any one factor its quantitative effect on the erosion process for any specific condition because these effects are constantly changing as a result of their interrelation with other factors.

"It seems safe, however, to conclude that a close-growing crop such as wheat will prevent excessive rates of run-off from Dunmore silt loam on all slopes investigated under Virginia rainfall conditions, while high rates of run-off must be expected from corn grown on this soil; and serious soil losses result when it is planted on slopes above 10 per cent. The hay crop offered practically complete protection against run-off and erosion."

Ramser, C.E. and others. Surface runoff determination from rainfall without using coefficients. Discussion. Amer. Soc. Civ. Engin. Proc. 67(8):1469-1489, illus. Oct. 1941. 290.9 Am3P

LeRoy K. Sherman, A.J. Schafmayer, C.S. Jarvis, G.W. Musgrave, and F.L. Flynt-joint authors.

Paper by above title, by W.W. Horner, appeared in the April 1941 Proceedings.

Van Vliet, Richard and Sherman, L.K. Method of predicting the runoff from rainfall. Discussion. Amer. Soc. Civ. Engin. Proc. 67(9):1768-1770, illus. Nov. 1941. 290.9 Am3P

Paper with above title, by Ray K. Linsley, jr. and William C. Ackerman, appeared in June 1941 Proceedings.

Sedimentation and Silt

- Brune, G.M. Reservoir silting in the Ohio Valley. U.S. Soil Conserv. Serv. Ohio Val. Reg. Tech. Notes 18. 2pp. Dayton, Oct. 6, 1941. 1.9603 T22
- Grassy, R.G. Staining natural river sands for studies of sediment movement. Civ. Engin. 11(11):668-669, illus. Nov. 1941. 290.8 C49
- Odom, L.M., Lane, E.W. and Dent, E.J. Missouri River slope and sediment. Discussion. Amer. Soc. Civ. Engin. Proc. 67(9):1741-1749, illus. Nov. 1941. 290.9 Am3P
Paper with above title, by William Whipple, Jr., appeared in March 1941 Proceedings.
- Thompson, Huston. The law says yes. The Land 1(3):198-202. Summer 1941. 279.8 L22
United States Supreme Court decision re. The United States of America v. Appalachian Electric Power Company contains the declaration "that our Government could subject the watershed of a river system to national planning and control in order to protect or improve navigation below".

Shelterbelts and Windbreaks

- Wahlberg, H.E. Windbreaks for orchard protection. Calif. Citrog. 26(12):359, 372-373, illus. Oct. 1941. 80 C125
"Protection against wind damage to fruit and trees is recognized more generally today by citrus growers of southern California than ever before. With the more modest returns coming to the citrus industry in recent years, growers are realizing that production per acre and quality of fruit must be better than average if more than the cost of production is to be obtained.
"Both of these factors - yield per acre and quality of fruit - are materially influenced by windbreak protection in seasons of damaging winds."
- Warren, G.H. Shelterbelts [East Africa]. East African Agr. Jour. 7(1):8-19, illus. July 1941. 24 Ea74

Snow Surveys

- Marean, S.R. Machine on skis used in Jackson Hole [Wyo.] snow surveys. U.S. Bur. Reclam. Reclam. Era 31(11):296-297, illus. Nov. 1941. 156.84 R24
Sno-plane.

Soil Conservation

- Bregger, J.T. Practical soil management and conservation practices for nut plantings. North. Nut Growers' Assoc. Rpt. of the Proc... (1940) 31:168-171. 94.69 N81 31st 1940
- Bromfield, Louis. A piece of land. The Land 1(3):203-206. Summer 1941. 279.8 L22

Carr, H.L. and Eyerson, G.E. Tooling up for soil conservation. U.S. Soil Conserv. Serv. Soil Conserv. 7(5):113-116, 126, illus. Nov. 1941. 1.6 So3S

Chase, Stuart. The new patriotism. The Land 1(3):181-185. Summer 1941. 279.8 L22

"We greatly need a new attitude toward our land. Every one of us lives by virtue of the hospitality of the continent of North America. For three centuries we have outraged that hospitality, until the soil itself has revolted... We have outgrown the concepts and customs appropriate to continuous expansion, and must have a new set of concepts appropriate to more intensive development, where sheer quantity gives place to quality."

Conservation practices receive approval of bankers. U.S. Soil Conserv. Serv. Soil Conserv. 7(5):124-126. Nov. 1941. 1.6 So3S

"Bankers are practical people. They do not jump at conclusions, do not take to fads or new ideas unless they see dollars-and-cents values - if they did they would not long be bankers. From the stacks of letters reaching the Service yearly, those from bankers in various parts of the country are quoted as definitely indicative of the monetary value of soil and water conservation methods. In a way, these statements constitute an important message to the farmer from the banker, by way of the Soil Conservation Service." Editor's Note.

Craig, D.G. The Valimont farm [near Morgan, Utah] U.S. Soil Conserv. Serv. Soil Conserv. 7(4):107-109, illus. Oct. 1941. 1.6 So3S

Fleming, J.R. War and agriculture. Country Life [Garden City, N.Y.] 81(1):20-21, 46-47, illus. Nov. 1941. 80 C832

Ford, J.W., jr. Building a soil conservation program through group activities. U.S. Soil Conserv. Serv. Soil Conserv. 7(4):110. Oct. 1941. 1.6 So3S

"The remarks quoted are abstracted from a paper presented at the meeting of the Soil Conservation Section, Association of Southern Agricultural Workers, 42nd Annual Convention, February 6, 1941, at Atlanta, Ga. The author is County Agricultural Agent, Prattville, Ala."

Frischie, Kenneth. History repeats itself. Purdue Agr. 36(1):6, 15, illus. Oct. 1941. 6 P97

"Since the days of the early Syrians man has forgotten soil conservation in times of prosperity, this year Uncle Sam is helping with conservation."

Groves need soil management. Citrus soil conservation study to improve groves. Fla. Grower 49(11):11, illus. Nov. 1941. 80 F6622

By Agricultural News Service.

"A new type of soil conservation demonstration project to develop and demonstrate conservation practices applicable to Florida's citrus-growing sections has been established in a 15,500-acre area in Polk county, according to Colin D. Gunn, state coordinator of the soil conservation service."

- Hentz, John. Okaloosa [county, Florida] progresses with soil conservation. Field crops and livestock production lead farm activity where soil building is fixed practice. Fla. Grower 49(10):6, illus. Oct. 1941. 80 F6622
- Howard, I.M. Nuts to profits. Great factors in soil conservation and farmstead shading, nut trees prove they will turn a pretty penny as a plus crop. Successful Farming 39(10):36, 89, illus. Oct. 1941. 6 S12
- Lord, Russell. Soil & man. Country Life [Garden City, N.Y.] 80(6):44-46, illus. Oct. 1941. 80 C832
Article about Louis Bromfield and the soil erosion work he is carrying on at Malabar Farm, near Mansfield, O.
- McDonald, Angus. Men of the soil - Eliot to Bennett. U.S. Bur. Agr. Econ. Land Policy Rev. 4(11):12-17. Nov. 1941. 1 Ec7La
"Once the men who worked to save the soil were called fanatics, but now those prophets are honored in their own country."
- McPheters, W.H. We don't miss the topsoil until it's gone. Farmer-Stockman 54(5):123. Mar. 1, 1941. 6 Ok45
"Second in a series of articles on terracing by W.H. McPheters. This one tells about building back soil."
- Plattes, Cyril. Saving Minnesota's good soil. Benefits to wildlife are legion. Conserv. Volunteer 3(14):4-7. Nov. 1941. 279.8 C465
"Soil erosion is everybody's concern. Timely control is saving many farms."
- Powell, T.P. Gravel-rock overfall structures. Agr. Engin. 22(11):384-385, illus. Nov. 1941. 290.8 C49
- Pryor, W.C. Chris Olsen, Montana farmer. U.S. Soil Conserv. Serv. Soil Conserv. 7(5):121-123, 126, illus. Nov. 1941. 1.6 So3S
- Tugwell, R.G. Hay fever. The Land 1(3):194-197. Summer 1941. 279.8 L22
- Webb, C.G. Man, land, opportunity and management-success. U.S. Soil Conserv. Serv. Soil Conserv. 7(4):94-96, illus. Oct. 1941. 1.6 So3S
- Westbrook, E.C. Georgia's bale-per-acre cotton farmers. Better Crops with Plant Food 25(8):9-11, 44-45, illus. Oct. 1941. 6 B46
- Zimmerman, G.K. Do you know your conservation? Country Gent. 111(10):22, 31, illus. Oct. 1941. 6 C833

Soil Conservation. Study and Teaching

- Benton, Ralph. The derivation of content for instruction in soil conservation. Agr. Ed. 14(2):36-37. Aug. 1941. 275.8 Ag8
"Based on a Master's thesis written under the direction of Dr. H.E. Bradford, Department of vocational education, University of Nebraska."

565 Soil conservation districts in 42 states now embrace more than 340 million acres of land. N.Mex.Stockman 6(9):14. Sept.1941. 49 N462

Ohio's soil district law enables SCS to extend services to farmers. Ohio Farmer 188(8):14. Oct.18,1941. 6 Oh3

Soil Binding Plants

Howard,R.W. One man looks at one weed. Farm Jour.65(9):[18-19],illus. Sept.1941. 6 F2212

The use of the milkweed as a soil binder.

Soil Drifting

Hore,H.L. Soil drift control.Results of competition. Victorian Dept.Agr. Jour.39(Pt.8):357-365,illus. Aug.1941. 23 V66J

"With the object of surveying the methods being used by farmers to control soil drift in the Mallee,and to publicize those methods found most successful in minimizing the evil,a competition was inaugurated last year by Mr.Commissioner Hanslow of the State Rivers and Water Supply Commission for the best effort to control soil drift on a Mallee farm.

"The main condition of the competition was that it should be judged by the efforts made and the degree of success achieved in reducing soil drift on the cultivated areas farmed by the entrants,and also in relation to their general farm management and economy.Consideration was given to the problems faced by each of the entrants,in an endeavour to assess the degree of difficulty with which he had to contend in reducing the amount of drift."

Soil Erosion and Control

Fick,J.C. Erosion and how it is affected by the disturbance of natural balances. Farming in So.Africa 16(184):227-228. July 1941. 24 So842

Iovenko,N.G. Agrotechnical measures for drought and erosion control on chernozem soils. Pedology no.6,pp.50-56. 1940. 57.8 P34
Article in Russian

"Deep furrows along the contours of slopes preceded by deep ploughing are said to be a most effective method of control for both drought and erosion.The furrows should be prepared in the autumn during the early frosts to prevent silting up and to form high ridges for snow retention. For erosion control the distance between the furrows should be 1.5 m." Abs.Int.Bur.Soil Sci.Soils and Fert.4(2):74. 1941.

Martin,J.P.and Waksman,S.A. Influence of microorganisms on soil aggregation and erosion:II. Soil Sci.52(5):381-394,illus. Nov.1941. 56.8 So3
"References,"p.394.

"Journal Series paper of the New Jersey Agricultural Experiment Station, Rutgers University,Department of soil chemistry and microbiology."

"The results of investigations on the role of microorganisms in bringing about aggregation of the fine soil particles have been reported.Such aggregation may be expected to have an important bearing on soil erosion.

"Two field soils,Bermudian clay loam and Collington sandy loam,were studied.Various organic substances were added,with and without lime.A mixed soil population was used as the inoculant.After certain periods of incubation the soils were tested by a pipette method to determine the

aggregating effects of the activities of the microorganisms upon the silt and clay particles.

"The action of microorganisms was found to result in a marked aggregation of the soil particles. The extent of aggregation depended upon the nature of the organic and inorganic materials added.

"Alfalfa and straw were more effective than manure, which in turn, was more effective than peat and lignin, in establishing aggregates. Complex organic materials together with lime maintained a better state of aggregation of the clay loam than did the organic substances alone. Lime alone exerted a small and gradually increasing effect upon the silt and clay particles of the moist soil. This effect was not so apparent after the soil was dried. The dried soil receiving lime showed an increase in the percentage of very small aggregates only.

"Lignin and casein together produced greater aggregation in the clay soil than did casein alone, as determined by tests on the soil. After the soil was dried, the effects of casein alone appeared to be greater than the effects of casein and lignin used in combination."

Soil Erosion and Control. Foreign Countries

Bittencourt, H.V. de C. Conservação do solo. Rev. de Agr. 16(1-2):41-57.

Jan./Feb. 1941. 9.2 R324

References, pp. 56-57.

Article in Portuguese.

Clayton, E.S. Soil erosion. Austral. Surveyor 8(5):260-264. Mar. 1, 1941. Library of Congress

Director of Soil Erosion Service of New South Wales discusses nature of soil erosion and its effect on stream flow; unsatisfactory stream flow in Australian rivers; land slips; value of dense pasture.

Cuba, Paulo. Combate a erosão. Rev. Rural Brasil. 21(252):18-21, illus. Aug. 1941. 9.2 B733

Article in Portuguese.

Letter describing activities of the Soil Conservation Service in the United States.

Cumberland, K.B. A century's change; natural to cultural vegetation in New Zealand. Geog. Rev. 31(4):529-554, illus., map. Oct. 1941. 500 Am35G

Egorov, V.V. Soil-erosion processes under the forest-steppe conditions of the Moscow region. Pedology no. 11, pp. 41-48. 1940. 57.8 P34

Article in Russian.

"Most of the erosion occurs on structureless soils, and it is therefore recommended that all measures conducive to the building-up of soil structure should be encouraged." Abs. Imp. Bur. Soil Sci. Soils and Fert. 4(4):172. 1941.

Erosion and rivers. Bill introduced in parliament. New Zeal. Farmer 62(24):18. Aug. 14, 1941. 23 N484

"The Soil conservation and rivers control bill was introduced in the House of Representatives during the week by the Hon. H.T. Armstrong, Minister of Public Works."

The measure provides for a Council composed of the engineer-in-chief of the Public Works dept., and other officers of the dept., the Under-Secretary for lands and three other members to be appointed by the Governor-General on the recommendation of the Minister. The Governor-General, on the recommendation of the Minister, is to appoint the chairman.

Provision is made for setting up soil conservation districts and catchment districts.

Fighting soil erosion. Need for a department of conservation. New Zeal. Farmer 62(28):20-21. Sept. 11, 1941. 23 N484

Kerr, H.W. Soil erosion. Queensland Agr. Jour. 56(Pt. 2):126-135, illus. Aug. 1, 1941. 23 Q33

"Address delivered at Meringa Sugar Experiment Station, at the joint Field Day and Sugar Technologists' Agricultural Session, 19th April 1941."

Min Tieh, T. Soil erosion in China. Geog. Rev. 31(4):570-590, illus. Oct. 1941. 500 Am35G

"China is often credited with having established a system of permanent agriculture. To a certain extent the reputation is deserved. She is one of the oldest countries now in existence. For more than forty centuries she has been self-sufficient. On agriculture she has succeeded in building up a splendid civilization. Even today agriculture is still her basic industry, and her economic structure is sustaining well the strains of a protracted war.

"But China's agriculture may not long retain its reputation of permanency. During the last few hundred years soil erosion has been going on at an unprecedented and alarming rate. The most important of the country's natural resources is being rapidly destroyed. Droughts and floods, which bring misery and suffering to her unnumbered millions, have become more frequent. Crop yields have shown a noticeable decrease. Unless this soil destruction can be halted, the country will have to face an ever increasing menace."

Roest, P.K. French West Africa.... U.S. Off. For. Agr. Relat. Agr. in the Amer. 5(9):353-396. Sept. 1941. 1 F752A

Irrigation: the Niger project, pp. 366-368; Waste, erosion, soil exhaustion, and conservation, pp. 368-369.

Setzer, José. Propriedades físicas dos solos do Estado de São Paulo em face ao combate contra a erosão. Rev. de Agr. [Piracicaba] 15(3/4):90-113. Mar./Apr. 1940. 9.2 R324

In Portuguese. Translated title: Physical properties of the soils of the state of São Paulo in relation to the fight against erosion.

"Data given for several types of soils include figures for 'resistance to erosion', obtained by dividing 200 times the natural hygroscopicity by the porosity. The former is defined as the number of c.c. of water firmly held by 100 c.c. of soil; the latter is $100 - \frac{\text{apparent S.G.}}{\text{absolute S.G.}} \times 100$

"It is recognized that this expression leaves intensity of rainfall and slope out of account, but it is possible to include correcting terms. The value of the 'resistance to erosion' may lie between 0 and 100 i.e., it is a percentage." Imp. Bur. Soil. Sci. Soils and Fert. 4(4):155. 1941.

Sobolev, S.S. New data on erosion control in the plains of the U.S.S.R. Pedology no. 10, pp. 99-104. 1940. 57.8 P34

"An account of the reports at a session of the Permanent Commission for erosion control at the Dokuchaev Soil Institute. Imp. Bur. Soil Sci. Soils and Fert. 4(4):172. 1941.

Soil conservation research station. First of its kind in Australia. Great gathering at Cowra. Country Life Stock & Str. Jour. 53(16):2, illus. Oct. 17, 1941. 286.85 Sv2

"By the establishment of a Soil Conservation Research Station at Cowra, the N.S.W. Department of Agriculture has taken the first practical step in the great forward march calculated to secure the reclamation of millions of acres of country which have been partially or practically ruined by soil erosion, and the stabilising of millions more acres which so far have not been affected."

Soil erosion in Western Australia. Austral.Forestry 6(1):[39]-41,illus.
June 1941. 99.8 Au74
"Notes on the Report of the W.A.Soil Conservation Committee."

Thomas,A.S. Some lessons from a tour of the tea districts of India. East
African Agr.Jour.7(1):24-32,illus. July 1941. 24 Ea74
"References,"p.32.
Discusses:(1)Seed selection;(2)Soil cultivation and conservation;(3)
Shade;and (4)Estate planning.

Soils

Henderson,J.R. The well drained soils of central Florida. Citrus Indus.
22(11):7,18. Nov.1941. 80 C49

"We believe that the soil survey program soon to be initiated in
Florida will aid materially in the development of accurate information
on the distribution and fundamental characteristics of the various kinds
of soils occurring in the state.With an accurate survey as a basis,the
solution of future soil problems would be made easier and the application
of knowledge already gained,facilitated."

Ivanchenko,F.L. Effect of the structure of artificial rain on the character
of the moistening and on the agro-physical properties of the soil.
Pedology no.6, pp.57-64. 1940. 57.8 P34

Article in Russian with German summary.

Intensification of the spray when using sprinkling irrigation destroys
soil structure,decreases depth of water penetration and increases run-off
Increasing the size of drops in the spray also increases the destructive
effect on soil structure.The optimum intensity of spray is 0.2 mm./min.,
at which rate no destruction of soil structure takes place;on the con-
trary,small aggregates are formed,and a maximum depth of penetration
results. The optimum diameter for the drops in the spray was 2-3 mm.
Abs.Imp.Bur.Soil Sci.Soils and Fert.4(2):69. 1941.

Ryzhov,S.N. Effect of draining interlayers on the permeability and water-
retaining capacity of soils. Pedology no.7, pp.22-38. 1940. 57.8 P34
Article in Russian with German summary.

"Laboratory experiments on the effect of interlayers on permeability,
both laboratory and field experiments on the water-retaining capacity
of soils in relation to the irrigation of cotton.Soils with layers of
shingle and sand at different depths showed a slightly higher water-
retaining capacity than soils of uniform structure." Abs.Imp.Bur.Soil
Sci.Soils and Fert.4(2):77. 1941.

Sokolov,S.I. A study of water permeability in mountain soils. Pedology
no.6, pp.77-87. 1940. 57.8 P34
Article in Russian.

"Of the soils examined a forest soil was the most permeable,a meadow-
steppe soil was intermediate,and an alpine mountain-meadow soil was the
least permeable.The sod horizon of the mountain-meadow soil was about
one-tenth as permeable as meadow-steppe soil,but had a very high water-
holding capacity(more than 100% of the weight of dry soil) accumulating

large amounts of water and acting as a regulator of run-off. In this capacity the importance of this soil type for the control of erosion should be considered. Owing to the small number of determinations all the data under consideration should be regarded as preliminary." Abs. Imp. Bur. Soil Sci. Soils and Fert. 4(2):59. 1941.

Viswa Nath, B. The soils of India. Trop. Agr. [Trinidad] 18(9):185-187, illus. Sept. 1941. 26 T754

"Abridged from Scientific Reports of the Imperial Agricultural Research Institute, New Delhi, for year ending 30th June, 1939 (pp. 84-88)"

Whiteside, E. P. and Smith, R. S. Soil changes associated with tillage and cropping in humid areas of the United States. Amer. Soc. Agron. Jour. 33(9):765-777, illus. Sept. 1941. 4 Am34P

"Literature cited," pp. 775-777.

"1. A review of some of the literature dealing with chemical and physical soil changes associated with tillage and cropping in humid areas of the United States is presented.

"2. Mechanical analyses, total carbon, base exchange capacity, and exchangeable base determinations on adjacent tilled and uncultivated areas of a prairie soil are presented.

"3. No difference in mechanical composition of virgin and cultivated profiles was observed although considerable variation within the area was noted.

"4. The tilled area has less organic carbon, base exchange capacity, and exchangeable bases in the upper 12 inches of the profile. The differences decrease with increasing depth. The smaller exchange capacity of the tilled soil is mainly due to a lower organic matter content."

Statistics

Brandt, A. E. The relation between the design of an experiment and the analysis of variance. Amer. Statis. Assoc. Jour. 36(214):283-292. June 1941. 251 Am3
"References," p. 292.

Stream Gauging

Buckland, L. L. R. Gauging streams and furrows. East African Agr. Jour. 7(1): 33-36, illus. July 1941. 24 Ea74

"Apart from special methods requiring more or less permanent installations of measuring apparatus, such as gauging weirs or Venturi meters, which will not be discussed here, there are five main methods of stream gauging. These are as follows: (1) By Current Meter. - This method is applicable to all but the smallest streams, and is the only possible method in large rivers. (2) By Rod Floats. - This is especially useful in gauging regular channels or furrows, and is only approximate if the bed of the stream is irregular. (3) By Surface Floats. - This method is only approximate, but is very rapid and is sufficiently accurate for most farm purposes. (4) By a Notched Board. - This method is only applicable to small streams or furrows of up to 1 cusec. (5) By Volumetric Measurement. - This is only applicable to very small flows, but if carefully done is very accurate."

Terracing

Carnes, Arvy and Weld, W.A. A study of old farmer-built terraces. Agr. Engin. 22(10):361-362, 366, illus. Oct. 1941. 58.8 Ag83

"The authors of [this] paper point out that experience has unquestionably proven that single-practice methods of attacking the erosion-control problem are not adequate, but that several practices must be properly coordinated to provide a complete conservation plan for a particular farm. Also, technicians in direct contact with field operations have realized that much of the terracing work prior to 1933 was not satisfactory and should be replanned and established in accord with approved standards."

Jackson, P.M. Terraces not new to the Dillons [Prince Edward County, Va.] South. Planter 102(11):26. Nov. 1941. 6 So89

Tillage

Hinde, R.R. Subsurface tillage and straw mulch saves soils. Prog. Farmer [Tex. Ed.] 56(11):[9], illus. Nov. 1941. 6 T311

Young, C.K. What tillage? Better methods of seedbed preparation are devised by Missouri College of Agriculture for new system of farming. Capper's Farmer 52(11):10, illus. Nov. 1941. 6 M693

Advantages of 1-year rotation: (1) A means of utilizing land and the crops that grow on it; (2) A soil conservation practice; (3) A way to effect lower production costs of both crops and livestock.

Tree Rings

Douglass, A.E. Crossdating in dendrochronology. Jour. Forestry 39(10):825-831, illus. Oct. 1941. 99.8 F768

"Some published discussion of crossdating," pp. 830-831.

"This paper defines and illustrates cross-dating, an initial process in dendrochronology or tree-ring work by which accurate ring chronologies may be built for dating purposes, for climatic information, or for certain ecological problems. Here are briefly explained its operation by an efficient method, its principles of interpretation and application, its character as differentiated from correlation, its procedures for reaching assurance in results, its significance as a guide to special sites where certain climatic effects on tree rings can be distinguished, and finally references are given to some of its published discussions. The purpose of this paper is to call the attention of ecologists and others to this fruitful process that carries conviction by tests on well-located trees but whose reality in certain well-assured regions cannot be judged by misinterpretation of material or untechnical treatment of specimens."

Hess, R.W. A micrometer for growth ring analysis. Jour. Forestry 39(10):871-873, illus. Oct. 1941. 99.8 F768

Trees

Cummings, W.H. Fertilizer trials for improved establishment of shortleaf pine, white ash, and yellow poplar plantings on adverse sites. Jour. Forestry 39(11):942-946. Nov. 1941. 99.8 F768

"Literature cited," p. 946.

"In efforts to reforest abandoned farm land and soil banks left by

strip mining in the Central States, difficulty is frequently experienced in obtaining prompt, successful establishment of planted trees, particularly desirable hardwoods. Since low fertility is characteristic of such sites and spot application of fertilizer in forest plantings is economically feasible, the Forest Service has experimented in applying fertilizer at time of planting. In reporting on some of the tests, the author brings out the differential response of three different species to the nutrients supplied, and mentions factors in site adversity other than deficiency of soil nutrients."

Kline, L.V. Tree crops for the Tennessee Valley. Amer. Forests 47(10):470-472, 482, 494-495, illus. Oct. 1941. 99.8 F762

"As reforestation and erosion control progressed in the Tennessee Valley, the need for trees adapted to rough, hilly, or highly erosive lands, that would provide adequate soil protection and at the same time would increase the productiveness of the lands by yielding valuable timber or other 'tree crops' on annual or short rotations was early recognized. This need was the genesis of a study begun by the Tennessee Valley Authority in 1934, and since carried forward as a phase of the watershed protection work of the Department of Forestry Relations under the name of 'Tree and Tree Crop Research'.

"Research involving plant growth is often slow in yielding results: years often must pass before any definite conclusions can be reached. A description, however, of the work under way in tree crop research as well as the results of several completed tests, may be of interest at this time. Although the Authority has made the preliminary studies and propagated the required plants, a number of state and federal agencies also have engaged in the project. State and local agencies are now actively participating in making field tests and in establishing demonstrations."

Water Conservation

Nelson, W.R. Stabilizing western economy by water conservation. U.S. Bur. Reclam. Reclam. Era 31(10):258-262, illus. Oct. 1941. 156.84 R24

Watersheds

Stevens, R.L. and Kinnear, E.R. Hydrologic evaluation of watershed improvement programs. Agr. Engin. 22(10):350-352, 354, illus. Oct. 1941. 58.8 Ag83

"Paper presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Knoxville, Tenn., June 1941."

Thompson, Huston. The law says yes. The Land 1(3):198-202. Summer 1941. 279.8 L22

United States Supreme Court decision re. The United States of America v. Appalachian Electric Power Company contains the declaration "that our Government could subject the watershed of a river system to national planning and control in order to protect or improve navigation below".

Wildlife Conservation

Davison, V.E. Wildlife borders - an innovation in farm management. Jour. Wildlife Mgmt. 5(4):390-394, illus. Oct. 1941. 410 J827

"Methods of land management are changing and the wildlife border is

becoming a part of the new land-use patterns of southeastern agriculture. Particularly needed between woodland and cropland, the vegetated strip is designed for multiple use, including turnrow, erosion control, water disposal, control of trees, beauty, and wildlife food and cover.

"The recommended border for the area shown in Plate 26 - consists of two parts - a strip of Lespedeza sericea next to the crops and a strip of shrubby vegetation next to the woods. The herbaceous portion must be maintained free of shrubs and the woody portion free of trees.

"The border serves wildlife as shelter - nesting sites, travel lanes, roosting and resting areas, and escape coverts. Emergency food is also provided by Lespedeza sericea and woody plants such as the sumacs, honeysuckle, grapes, haws, blackberries, and dogwoods, and cedars, wild cherry, and persimmon, of low growth.

"The wildlife border is acceptable to most farmers because of its simplicity, its easy maintenance, and its multiple values. An increased interest in wildlife results from this tangible contribution to better farm management."

Hutchins, R.E. Farmers can raise more farm game. Better Crops with Plant Food 25(8):14-16, 38, illus. Oct. 1941. 6 B46

Rush, W.M. Factors in wildlife populations. Amer. Forests 47(10):473-475, illus. Oct. 1941. 99.8 F762

"The land area of the United States is about 1,903,000,000 acres, of which eighteen per cent are in cultivation, forty-two per cent in pasture and forty per cent in desert, heavy forests, mountain tops and cities. On the cultivated areas, our people raise crops which they sell for \$5,000,000,000; they raise and sell 439,000,000 chickens and turkeys; they support at least 32,000,000 dogs and cats. On second grade soil, land unsuited for cultivation but suitable for pasture, nearly 190,000,000 head of domestic stock are grazed. The poorest soil, the deserts and the mountain tops, are worthless for cultivation or pasturage. Considering this division and extent of land uses, what chance has wildlife to survive and propagate? What are the factors in the rise and fall of wildlife populations? Mr. Rush, who has devoted years to the study of these factors, here makes some interesting and enlightening observations."

Sheldon, H.P. We shall have wildlife. Country Life [Garden City, N.Y.] 80(6): 17-21, 53, illus. Oct. 1941. 80 C832

Wind Erosion

Chepil, W.S. Relation of wind erosion to the dry aggregate structure of a soil. Sci. Agr. 21(8):488-507, illus. Apr. 1941. 7 Sci2

"References, "p. 507.

"1. The object of the study was to find what relation exists between the wind erosiveness of soils and their dry aggregate structure. For this purpose, use was made of a return flow type wind tunnel in which velocities up to 37 miles per hour at 6-inch height could be produced.

"2. The minimum velocity of wind required to initiate and continue the movement, known as the threshold velocity, was least for particles 0.05 to 0.15 mm. in diameter, these requiring a velocity of 8 to 9 m.p.h. at 6 inches above the ground. Above this range of size the threshold velocity increased with the increase in size of grains, while below that

it increased with the decrease in size of grains. The Threshold velocities for grains above 0.1 mm. were found to vary as the square root of their diameter and inversely with their apparent specific gravity. Particles below 0.005 mm. were highly resistant to wind erosion for reasons other than their size or their apparent specific gravity.

"3. In uniform mixtures containing coarse, non-erosible fractions, the movement of erosible material under any velocity of wind ceased as soon as the surface became protected by coarser aggregates. In such mixtures the amount of soil removable under a definite wind velocity was found to vary logarithmically with the ratio of erosible to non-erosible fractions present. It was further determined that the greatest degree of protection of a soil against wind erosion was given by that size of aggregate which is just large enough not to be moved by the wind. On the basis of the results obtained, mathematical equations were formulated by which the erosiveness of any uniform mixture of soil aggregates may be evaluated.

"4. These equations, based on the dry sieving analysis of the soil, seemed to afford an approximate measure of the susceptibility of freshly cultivated and uniformly mixed dry soils to wind erosion, but not of soils that have been left untilled for some time or have otherwise formed a surface crust following a rain. It was concluded that the dry aggregate structure, as determined by dry sieving analysis, cannot be regarded as a single criterion by which the inherent erosiveness of soils may be determined."

Chepil, W.S. and Milne, R.A. Wind erosion of soils in relation to size and nature of the exposed area. Sci. Agr. 21(8):479-487, illus. Apr. 1941. 7 Sci2

"References," p. 487.

"This investigation was undertaken to find the relations between wind velocity, intensity of soil drifting, and area and nature of the eroding surface.

"The moving soil particles over any type of dune material influenced the vertical wind gradient the same way as the eroding sand particles studied by Bagnold, and conformed closely to the rate of flow formula which he developed. Somewhat similar results were obtained over drifting cultivated soil composed of both erosible and non-erosible fractions. The rate of soil flow over dry dune formations varied somewhat as the cube of the difference between the existent velocity and the threshold velocity. Over cultivated soils the rate of soil movement did not remain constant, but diminished with time and ceased after the surface became stabilized with soil fractions too coarse to be moved by the wind.

"Over fields of bare fallow the intensity of wind erosion increased with distance in some cases to as far as 450 yards from the windward edge. The data obtained show that the increase in intensity of soil drifting with distance is not altogether due to the diminishing sheltering effect of the adjacent non-eroding areas, but mainly to the cumulative effect of soil drifting. In strip farming the principal value of alternating stubble strips seems to be in their use as barriers which trap the moving soil and thus decrease the cumulative intensity of soil drifting."

BOOK AND PAMPHLET NOTES AND ABSTRACTS

American forestry association. Papers presented at annual meeting...

Los Angeles, California, April 1941. 78 numb.1. [Los Angeles, Calif., 1941] 282.003 Am3

Partial contents: Water - the life blood of the west, by S.B. Morris, pp.7-10; The relationship of conservation to the national defense program, by W.B. Greeley, pp.24-26; Grazing in relation to conservation, by A.K. Mitchell, pp.32-36; Control of major floods, by W.T. Hannum, pp.41-45; The treatment of agricultural land in aid of flood control, by J.F. Johnston, pp.46-51; Game management, by H.L. Shantz, pp.69-78.

American geophysical union. Section of hydrology. Bibliography of hydrology United States of America for the year 1940. 96 numb.1., processed. Washington, D.C., 1941. 241.6 Am32 1940

California. Dept. of public works. Div. of water resources. Report on irrigation districts in California for the year 1939. Bul.21K. 37 l.

Sacramento [1941?] 290.9 Cl23 no.21-K

Report prepared by J.H. Peaslee.

Canadian society of forest engineers. Preliminary report of land classification and land use prepared by a Joint committee of members of the Canadian society of forest engineers and the Canadian society of technical agriculturists. January 1940. 3,2,3 numb.1., mimeogr. Fredericton, N.B., 1940. 282.134 Cl6

Diller, Robert. Farm ownership, tenancy, and land use in a Nebraska community. 192pp. Chicago, University of Chicago press [1941] 282.051 D58

Harper, A.R. Conservation week in Ohio's schools, April 7-8-9- Arbor Day- Apr.10, 1941. 12 numb.1., mimeogr. [Columbus] State Department of education and the Ohio Division of conservation & natural resources, 1941. 279.12 H23

Indian. Central board of irrigation. Annual report (technical)...1938-39.

India. Cent. Bd. Irrig. Pub.22. 185pp. Simla, 1940. 55.9 In222

"This 'Annual Report', which is published to make known to Engineers in India and other countries the problems confronting Irrigation Engineers in India, and the research and investigation, undertaken to solve them, is the fifth issue of its kind, and records the technical work of the Central Board of Irrigation during the year 1938-39.

The technical discussions are the result of three meetings given hereunder in chronological order:- (i) The Third Meeting of the Research Committee, March 1939. (ii) The Ninth Annual Meeting of the Research Committee, July 1939. (iii) The Tenth Annual Meeting of the Central Board of Irrigation, November 1939."

King Co. (Wash.) planning commission. Report of the planning commission July 1939 to July 1940 to Board of county commissioners. 59 numb.1., illus. Seattle [1941] 280.7 K58 1939/40

Lacey, Gerald. Regime flow in incoherent alluvium. India.Cent.Bd.Irrig. Pub.20. 65pp. Simla, July 18, 1940. 55.9 In222 no.20

In this publication the author has collated his researches made over a period of many years. The work is presented under the following headings: the Kennedy and Hindley theories; regime as a physical concept; correlation of the hydraulic mean depth with the mean velocity and water surface slope; a general regime equation; derivation of a new flow equation and computation of numerical coefficients; alluvial channel shape; derivation of the wetted perimeter-discharge relationship; the Punjab Research Institute equations; a new theory correlating turbulence, bed silt grade and shock; correlation of the silt factor and bed silt factor and bed silt grade in coarse material; dimensional analysis; conclusions.

Lahee, F.H. Field geology. Ed.4, rev., 853pp., illus. New York and London, McGraw-Hill book co., 1941. 400 L13 Ed.4

McDougall, W.B. Plant ecology. Ed.3, 285pp., illus. Philadelphia, Lee & Febiger, 1941. 463.8 L142 Ed.3

Muenschler, W.C. The flora of Whatcom county, state of Washington. Vascular plants. 134pp., illus. Ithaca, N.Y., The author, 1941. 455.91 M88

North American wildlife conference. Transactions of the sixth...conference, February 17, 18, and 19, 1941...Memphis, Tenn. 382pp., illus. Washington, D.C., American wildlife institute, 1941. 412.9 N814, 6th, 1941

Partial contents: Wildlife's share in the use of the land, by C.R. Wickard, pp.12-15; Agriculture's interest in conservation, by H.W. Hochbaum, pp.24-27; The future for conservation, by I.N. Gabrielson, pp.27-36; Second general session: Defense and conservation, pp.37-55; Special session: Conservation education and publicity, pp.85-117.

Northbourne, Walter E.C.J., 4th baron. Look to the land. 206pp. London, Dent[1940] 30 NS1

"A select bibliography of non-technical works," pp.195-200.
Material on erosion, pp.13-24.

Pugsley, A.J. Dewponds in fable and fact. 72pp. London, Country Life Ltd., 1939.

"Book gives results of observations of a large number of ponds and summarizes conclusions of other writers and correspondents. Beginning with account of legends which have surrounded mystery of dewponds, author proceeds to review authoritative publications on subject. Chapter on 'Where the ponds are found and how they are made' and another on 'Some theories of their action'. Only about a quarter of reputed dewponds examined showed anything curious about maintenance of water level; rest were aided by surface drainage in some way. Unassisted ponds are not really dewponds but well-made rain catches with good collecting margins; many of them dry up in times of drought, only larger ones surviving. Though ponds are ceasing to be of great value to agricultural communities, there are still areas where they can be profitably employed. In absence of clay pocket and where expense can be borne, concrete ponds with expansion joints on firm foundations will be best in long run. Natural run of surface water in heavy rain should be studied and pond should be

placed to make most of it. Road drainage should not be allowed to enter, as oil scum from it may prevent purifying action of bacteria and oxygenating effect of plant life. Although evidence points to rainfall as essential factor in their maintenance, problem of dewponds will never properly be solved until more independent information about rainfall and periodic change in depth of ponds is obtained by people accustomed to take continued reliable scientific observations. W.P.R." Abs. Amer. Waterworks Assoc. Jour. 32(12):2092. Dec. 1940.

Simaika, Y.M. The suspended matter in the Nile. Report on investigations relating to the Aswan reservoir. Egypt. Min. of Pub. Works. Phys. Dept. Paper no. 40. 70pp., illus. Cairo, 1940. 334.9 Eg9 no. 40

Stearns, H.T. Geology and ground-water resources of the islands of Lanai and Kahoolawe, Hawaii... with chapters on The petrography of Lanai and Kahoolawe, by G.A. MacDonald... Geophysical investigations on Lanai, by J.H. Swartz. Hawaii. Div. of Pub. Lands. Div. of Hydrog. Bul. 6. 177pp., illus., maps. Honolulu, 1940. Library of Congress

Texas. Upper Colorado river authority. Application by Upper Colorado river authority to Secretary of agriculture for survey Coke & Tom Green Counties, Texas. 114 numb. l., pl., map. San Angelo, Tex., 1936. 290 T314 Typewritten.

Victorian institute of surveyors. Soil erosion in Victoria, a symposium. [Victoria, Australia] Dept. of lands and surveys [1940] 176pp., illus. 56.7 V662

"Works of reference," p. 176.

Contents: Erosion as a factor in the utilization of crown lands, by O.G. Pearson and C.T. Clark, pp. 11-14; Erosion and water supply, by L.R. East, pp. 14-18; Soil erosion and agriculture, by H.A. Mullett, pp. 18-21; Soil erosion as it affects railway activities, by E. Richard, pp. 21-23; Country roads and soil erosion, by F.W. Fricke, pp. 24-25; Forests in relation to water conservation and erosion, by A.V. Galbraith, pp. 26-29; Soil erosion and mining, by W. Baragwanath, pp. 30-32; Erosion in relation to urban water supply, by A.E. Kelso, pp. 33-37; The economics of soil erosion, by J.A. Aird, pp. 37-41; Soil erosion as it affects the farmer, by H. Hanslow, pp. 41-45; Erosion from a grazier's viewpoint, by P. Weston, pp. 45-49; What is soil erosion? by H.C. Forster, pp. 53-67; The geological factors of erosion, by W. Baragwanath, pp. 67-74; The physiographical factors affecting soil erosion, by E.S. Hills, pp. 74-79; The hydraulics of soil erosion, by H.G. Strom, pp. 80-82; Insidious sheet erosion, by C.T. Clark, pp. 82-90; Pasture in erosion control, by J. Brake, pp. 91-97; Sand drift, by R.E. McNab, pp. 97-101; Experimental research in sand drift, by H.L. Hore, pp. 101-107; Headward erosion - gullying and control, by H.G. Strom, pp. 107-123; River erosion - siltation and control, by G.T. Thompson, pp. 123-135; The soil - to till and to hold, by H.C. Forster, pp. 135-148; Forestry on the farm, by A.A. Hone, pp. 148-157; The role of the forest in soil and water conservation in Victoria, by W.J. Lakeland, pp. 159-164; Hill and mountain forests in Victoria in relation to erosion control, by A.A. Hone, pp. 164-167; Appendix. Legislation in adjacent states: Soil conservation act of New South Wales, pp. 168-169; South Australian sand drift act, p. 169; South Australian soil conservation act, p. 170; Various reports and recommendations in Victoria,

by J.D.O'Carroll, pp.170-173; Memorandum by Joint committee of institutes, Victoria, 1940, pp.173-176.

Attached addendum in front gives the Soil conservation act of Victoria, 1940.

Wyatt, F.A. and others. Soil survey of Milk river sheet... Alberta Univ., Col. Agr. Bul. 36. 105pp., maps. Edmonton, Alberta, 1941. 101 AllB no. 36

STATE EXPERIMENT STATION AND EXTENSION PUBLICATIONS

California

California. College of agriculture. Extension service. Irrigated pasture management study for Merced county. Second report 1938, 1939, & 1940. Study conducted by the Agricultural extension service in cooperation with a group of local producers. [7]l. [Berkeley] 1940. 275.29 C12En Merced co. Irrigated 2d, 1940

Illinois

Linsley, C.M. Limestone the key to soil conservation. Ill. Univ. Col. Agr. Ext. Serv. AG947. 32pp., mimeogr. Urbana, May 1941. 275.29 IL62 Pag na9 47
"The use of limestone to correct acid soils so that good crops of soil-building clovers can be grown has long been recognized as the key to a sound soil improvement and erosion control program in Illinois."

Indiana

DenUyl, Daniel. Growing black locust. Purdue Univ. Ext. Serv. Leaflet 223. [2]pp., illus. Lafayette, Mar. 1941. 275.29 In2L no. 223

Harker, D.H. Farm drainage in ten easy lessons. 16pp., illus. Purdue Univ. Ext. Serv. Ext. Bul. 269. Lafayette, July 1941. 275.29 In2E no. 269
Soil Conservation Service cooperating with the Department of Agricultural extension, Purdue university.

Kohlmeyer, J.P. Major land use problems in Martin county, Indiana, with suggestions for programs and policies. Ind. Agr. Expt. Sta. Bul. 453. 34pp. Lafayette, Oct. 1940. 100 LO2P Bul. 453
"In the State of Indiana the solution of social and economic problems in the southern counties has long been recognized as a matter of public concern. The relationship of social and economic maladjustments to improper land use, however, has not always been clearly understood. The objectives of this study, therefore, is to focus attention on their relationship with the hope that a better understanding of its importance will aid the solution of the land use problems of southern Indiana."

Maryland

Maryland. University. Extension service. Twenty-sixth annual report... for the year 1940. 87pp., illus. College Park [1941] 275.29 M36 26th, 1940
Soil conservation, pp. 6-9

Massachusetts

Beaumont, A.B. Natural land types of Massachusetts and their use. Mass. Agr. Expt. Sta. Bul. 385. 16pp. Amherst, 1941. 100 M38H Bul. 385
"This represents an attempt to supply certain technical information regarding soils considered essential as a basis for sound land-use studies and classifications."

Beaumont, A.B. Simple practices in conservation. Mass. Agr. Col. Ext. Serv. Spec. Cir. 73. 7pp., mimeogr. Amherst, 1940. 275.29 no. 73
Soil and water conservation.

Minnesota

Roe, H.B. and Park, J.K. Supplemental irrigation. Minn. Univ. Ext. Bul. 225. 23pp., illus. St. Paul, June 1941. 275.29 M66S no. 225

New Jersey

Messer, Charles, Carncross, J.W. and Waller, A.G. Progress in achieving soil and water conservation and its economic aspects on dairy farms in the Flemington area, New Jersey. Rutgers Univ. Dept. Agr. Econ. A.E. 54. 31 numb. l., mimeogr. New Brunswick, 1941. 281.9 R93 no. 54
Cooperating agencies: New Jersey Agricultural experiment station, Soil conservation service and Bureau of agricultural economics, United States Department of agriculture.

New York

Huff, W.C. and Hoff, P.R. Diversion terraces and contour strip-cropping. N.Y. Agr. Col. (Cornell) Ext. Bul. 464. 35pp., illus. Ithaca, June 1941. 275.29 N48E no. 464
"The purpose of this bulletin is to illustrate the essential steps in laying out and building diversion terraces and in laying out contour strip-cropping."

North Dakota

North Dakota Agricultural experiment station. Grass. N. Dak. Agr. Expt. Sta. Bul. 300. 112pp., illus. Fargo, June 1941. 100 N813 Bul. 300

Oregon

Lewis, M.R. Design of small irrigation pipe lines. Oreg. Agr. Expt. Sta. Sta. Cir. 142. 7pp. Corvallis, June 1941. 100 Or3 Cir. 142
Prepared under a cooperative agreement between the Soils Department, Oregon Agricultural Experiment Station, and the Soil Conservation Service, U.S. Department of agriculture.

Thomas, H.L. Culling wheat land in eastern Oregon. Oreg. Agr. Expt. Sta. Sta. Cir. of Info. 247. 8 numb. l., mimeogr. Corvallis, 1941. 100 Or3Cm247
Agricultural experiment station, Oregon State college and soil conservation service and Bureau of agricultural economics, United States Department of agriculture cooperating.

Puerto Rico

Bonnét, J.A. Chemical data of Puerto Rico soils. Correlation of data for humid and arid areas. Field response of crops to available phosphorus and potash in soils. Puerto Rico Agr. Expt. Sta. Res. Bul. 1. 53pp. Río Piedras, Apr. 1941. 100 P83R Bul. 1

Texas

Texas agricultural experiment station. Fifty-third annual report, 1940. 294pp. College Station [1941] 100 T31S 53d 1940

Wyoming

Ritter, D.A. Questions and answers regarding Wyoming state soil conservation districts law. Wyo. Agr. Col. Ext. Cir. 78. 13pp., illus. Laramie, 1941. 275.29 W99C no. 78

U. S. GOVERNMENT PUBLICATIONS

Agriculture Department

Costello, D.F. Pricklypear control on short-grass range in the central great plains. U.S. Dept. Agr. Leaflet 210. 6pp., illus. Washington, U.S. Govt. print. off., 1941. 1 Ag84L no. 210

"...Pricklypear eradication should not be attempted unless adequate provision for proper grazing control following treatment has been made. Where the cactus has served as a protection for seed-producing plants and possibly for the only vigorous grasses remaining on the range, the removal of pricklypear without subsequent grazing regulation may easily lead to more serious range depletion."

Eisenhower, M.S. Changing attitudes in agriculture. Talk by... Land use coordinator, U.S. Department of agriculture, at the meeting of the National reclamation association, Phoenix, Arizona - October 17, 1941. 12 numb. l., mimeogr. [Washington, D.C.] 1941. 1.915 A2Ei8

- Engstrom, H.E. and Stoeckeler, J.H. Nursery practices for trees and shrubs suitable for planting on the prairie-plains. U.S. Dept. Agr. Misc. Pub. 434. 159pp., illus. Washington, U.S. Govt. print. off., 1941. 1 Ag84M no. 434
"Literature cited," pp. 155-157.
- Kollmorgen, W.M. The German settlement in Cullman county, Alabama. An agricultural island in the cotton belt. 66pp., mimeogr. Washington, D.C., 1941. 1.941 L4G31
Issued by the U.S. Bureau of agricultural economics.
- U.S. Agricultural adjustment administration. 1940 annual report for Montana ... 106 numb. 1., mimeogr. Bozeman, Mont., 1941. 1.42 W52An Mont. 1940
Agricultural conservation, pp. 15-63.
- U.S. Agricultural adjustment administration. Div. of information. Our strength is in the land. 9 numb. 1., illus. [Washington, D.C., 1941] 1.94 Ad450s
- U.S. Bureau of agricultural economics. Div. of land economics. Water utilization section. ... Water-land resources and problems in South Dakota... August 1941. 151pp., maps Washington, 1941. 1.941 L7W292
United States Department of agriculture, Bureau of agricultural economics, in cooperation with State land use planning committee of South Dakota.
- U.S. Forest service. New forest frontiers for: jobs, permanent communities, a stronger nation. U.S. Dept. Agr. Misc. Pub. 414. 76pp., illus. Washington, U.S. Govt. print. off., 1941. 1 Ag84M no. 414
- Wickard, C.R. The future of the farm. 7 numb. 1. [Washington, 1941] 1.95 F98
Reprinted from New republic, Feb. 3, 1941
Issued by U.S. Farm security administration.

Soil Conservation Service

- Bennett, H.H. Districts - democracy - defense. 3pp., mimeogr. [Washington, D.C., 1941] 1.96 Ad62
A radio talk by Dr. H.H. Bennett, chief, Soil conservation service, broadcasting in the Department of agriculture period, National farm and home hour, August 26, 1941, over stations associated with the Blue Network of the National Broadcasting Company.
- Duley, F.L. and Kelly, L.L. Surface condition of soil and time of application as related to intake of water. U.S. Dept. Agr. Cir. 608. 31pp. U.S. Govt. print. off., 1941. 1 Ag84C no. 608
"From April to October 1938 tests were made on the intake of water by 8 soils at 10 different locations in southeastern Nebraska, having various surface conditions and different degrees of slope. A description of the methods used and a summary of the results of this study were reported by the authors in a recent publication (Nebr. Agr. Expt. Sta. Res. Bul. 112) The data for representative tests on two of these soils, Marshall silt loam (heavy subsoil) and Lancaster sandy loam, are discussed in detail in this circular."

- Schoenleber, L.H. Terrace dimension changes and the movement of terrace ridges resulting from different farming practices. U.S. Soil Conserv. Serv. SCS-TP-40. 21 numb. 1., mimeogr. [Washington, D.C.] 1941. 1.96 Ad6Tp no. 40
- Thomas, H.L. Some economic aspects of the soil conservation program in the dry land wheat region of Oregon (A preliminary report) 59 numb. 1., mimeogr. Corvallis, Ore., June 1941. 1.9609 H192
United States Department of agriculture, Soil conservation service, Bureau of agricultural economics and Oregon Agricultural experiment station cooperating.
- U.S. Soil and water conservation experiment station, Navajo, Mexican Springs, N. Mex. Progress report... 1934-1939, by D.S. Hubbell, J.L. Gardner, and G.L. Sherman. U.S. Soil Conserv. Serv. SCS-ESR-9. 52 pp., mimeogr. [Washington, D.C.] 1941. 1.96 R31E no. 9
- U.S. Soil conservation service. Compilation of rainfall and run-off from the watersheds of the Shelby loam and related soils conservation experiment station, Bethany, Missouri, by A.W. Zingg... U.S. Soil Conserv. Serv. SCS-TP-39. 25 numb. 1., illus. Washington, D.C., 1941. 1.96 Ad6Tp no. 39
Prepared in cooperation with the Missouri Agricultural experiment station under the direction of C.E. Ramser, chief, Hydrologic division.
- U.S. Soil conservation service. The cotton-and-tobacco south. U.S. Dept. Agr. Misc. Pub. 474. 18 pp., illus. Washington, U.S. Govt. print. off., 1941. 1 Ag84M no. 474
- U.S. Soil conservation service. The nature of the problem, objectives, methods and results of soil conservation research. 20 numb. 1., mimeogr. [Washington, D.C., 1941?] 1.96 R31Na
- U.S. Soil conservation service. On the level contour cultivation in conservation farming. folder, illus. Washington, U.S. Govt. print. off., 1941. 1.6 So30n
United States Department of agriculture, Soil conservation service in cooperation with Soil conservation districts.
- U.S. Soil conservation service. Outline of water law doctrines in the seventeen western states, by Wells A. Hutchins. 49 pp., mimeogr. [Washington, D.C.] 1941. 1.96 R310w
Prepared for use by Department personnel engaged in administration of the Water facilities program of the U.S. Department of agriculture.
- U.S. Soil conservation service. Publications and visual information on soil conservation. U.S. Dept. Agr. Misc. Pub. 446. 30 pp. Washington, U.S. Govt. print. off., 1941. 1 Ag84M no. 446
- U.S. Soil conservation service. Statement of the Soil conservation service relative to recommendations of state agriculture planning committees. 12 pp., mimeogr. [Washington, D.C.] 1941. 1.96 Ad6St3
"This statement was prepared primarily on the basis of a summary of State reports as presented by the Bureau of agricultural economics, the Extension service, and the Office of Land use coordination.

U.S. Soil conservation service. Northern great plains region. Crops of trees and shrubs need cultivation! protection! care! The same as corn, oats, sorghum or any other agricultural crop. 4pp. Lincoln, Neb. [1941] 1.9607 C88

U.S. Soil conservation service. Northern great plains region. Save your soil. Range improvement by proper stocking in a conservation program for your farm or ranch. U.S. Soil Conserv. Serv. North. Great Plains Reg. Conserv. Folder 4. folder, illus. Lincoln, Nebr., 1941. 1.6 So39C no.4
"This is a series of folders prepared by the Soil conservation service for farmers and ranchers of the Northern Great Plains, describing practices that help conserve soil and moisture."

U.S. Soil conservation service. Northern great plains region. Seed processing, by G.L. Weber. 5 numb. l., mimeogr. [Lincoln, Nebr., 1941] 1.9607 Se3

U.S. Soil conservation service. Pacific northwest region. Civic and economic considerations in conservation policies and programs, by J.H. Christ. 4 numb. l., mimeogr. [Spokane, Wash., 1941] 1.9609 C46

U.S. Soil conservation service. Pacific northwest region. Controlling Oregon coastal dunes. 10 numb. l., mimeogr. [Spokane, Wash., 1941?] 1.9609 C77
Clatsop plains dune area, Warrenton, Oregon.

U.S. Soil conservation service. Range conservation division. Standard procedures for range surveys... 37 numb. l., mimeogr. Washington, D.C., Aug. 1941. 1.96 Op2Sta
Prepared solely for use within the Soil conservation service.

U.S. Soil conservation service. Upper Mississippi region. Nursery visitors' review [Elsberry, Missouri] 3 numb. l., mimeogr. [Milwaukee] 1941. 1.9605 N93

U.S. Soil conservation service. Upper Mississippi region. Soil conservation week in Wisconsin. 2 numb. l., mimeogr. Milwaukee, Wis., Sept. 1941. 1.9605 So34

U.S. Soil conservation service. Western gulf region. Community effort in soil and water conservation in the Western gulf region. Some accounts of the activity of people in Arkansas, Louisiana, Oklahoma, and Texas in defending their land against soil erosion. 15pp., mimeogr. Fort Worth, Tex., 1941. 1.9604 C731

Miscellaneous

Molohon, Bernard, comp. Voices of democracy, a handbook for speakers, teachers, and writers. U.S. Off. Ed. 1941, no. 8. 84pp. Washington, U.S. Govt. print. off., 1941. 156.3 B87 1941, no. 8

U.S. Waterways experiment station. Model study of plans for elimination of shoaling in the vicinity of the Manchester Islands, Ohio river. U.S. Waterways Expt. Sta. Tech. Memo. 181-1. 71pp., illus. Vicksburg, 1941. 292 Un342 no. 181-1

U.S. Weather bureau. Snow cover surveys by Eastern snow conference season of 1940-41. Compiled by the Weather bureau office, Hydrologic unit, Albany, N.Y. [49]pp. Albany, N.Y. [1941] 157.991 Ea7

BIBLIOGRAPHIES AND LISTS

American society of agricultural engineers. Committee on soil erosion. Publications on gully erosion control. Agr. Engin. 22(10):364. Oct. 1941. 58.8 Ag83

[Bibliography on] soil erosion. Pedology no. 3, pp. 162-176. 1941. 57.8 P34

U.S. Soil conservation service. Library. Soil conservation references of general interest, compiled in the Library. 4 numb. 1. Washington, D.C., Oct. 28, 1941.

PERSONNEL AND TRAINING

Aronson, A.H. Service rating plans. Pub. Personnel Rev. 11(4):298-305. Oct. 1941. 249.38 P962

"A service rating plan may be defined as a method of securing and recording, systematically and periodically, supervisory opinion of employee performance. It is, therefore, a formalizing, through analysis and summarization, of the continuing process of employee evaluation that is involved in supervision."

Bingham, W.V. and Moore, B.V. How to interview. 3d rev. ed. 263pp. New York and London, Harper & Brothers publishers, 1941. 145 B51 Ed. 3
Contains "References".

Cooper, A.M. How to supervise people. 150pp. New York and London, McGraw-Hill book co., inc., 1941. 249.3 C78

Hoppock, Robert and Spiegler, Samuel. Guidance and personnel books of 1939. A selected, annotated bibliography. 6 numb. 1. New York, Occupational Index, inc., 1940. 241.25 H77

Reitell, C.E. Training workers and supervisors. 182pp. New York, Ronald press, 1941. 243.9 R27

"Selected references," pp. 163-167.

"In Part I are discussed principles and methods for selecting new employees. Job ratings, the use of application forms and procedures, the place of tests, and the techniques of interviewing are specifically treated..."

"Part II offers specific methods of training. This division of the book shows how to take advantage of the two secrets of training success - the building of correct habits in performance of operations and the tested techniques of good teaching..."

"Part III is concerned with the training that builds good performance,

both as to quality and quantity production. The role of standards and their specific application to costs, to quality and quantity, and to planned operations is discussed in detail...

"Part IV, (Human relations) is of prime importance. In this section are presented underlying factors in the relationships of management and labor whose basic importance must be recognized and faced."

Richards, E.A. and Rubin, E.B. How to elect and direct the office staff.
179pp. New York and London, Harper & brothers, 1941. 249.3 R39
Personnel policies in business.

Simons, A.M. and Dutton, H.P. Production management. 588pp., illus. Chicago,
American technical society, 1940. 249 Si4

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